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AUTHOR Stewig, John Warren
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ABSTRACT

A study explored how children respond to visuals and how a program of visual literacy enhances oral and written response to pictures. The first and fifth grades of two schools, one urban and one suburban, with different socioecomic groups of students, were chosen to participate in a 1-year program consisting of one visual literacy lesson per week. Both oral and written data were gathered in sessions in which two stimulus materials representing two distinctly different visual styles were used, one watercolor each by Winslow Homer and Paul Klee. All the children chose one of the paintings and dictated about it. Sixty children (15 from each classroom) actually provided the data. Analysis of responses centered on three different language measures, two for quantity and one for quality. Findings revealed that, regardless of urban or suburban setting, as children grow older, boys seem to move from preferring representational art to preferring abstract art, while girls seem to move from preferring abstract art to preferring representational art. Among neither males nor females in the fifth grade was there apparent developmental progression toward more language. Also, gender differences were apparent in considering number of words generated. (Three tables of data are included.) (KEH)

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AN EXPERIMENTAL VISUAL LITERACY PROGRAM IN SCHOOLS

by

John Warren Stewig

University of Wisconsin-Milwaukee

Much has been written about visual perception, though it is accurate to state that the majority of such studies have been done under experimental conditions, while little attention has been paid to influencing in classrooms how students perceive.

The majority of art education programs at the elementary school level have been, until recently, studio-oriented, production programs that involve children primarily in making art, not in perceiving it. Recent efforts at expanding such programs to include looking with more insight are impressive, but probably not yet widespread in the schools (Eisner, n.d.; Duke, 1985).

Beyond such art education efforts, little is done in the elementary generalist classroom to influence perception of and language response to illustration. The ideas of visual literacy have had, to date, little effect on what classroom teachers do. Few regularly involve children in looking at pictures, both for the increased visual awareness which could result, and for the stimulus to language which pictures provide.

This paper reports on a study which attempted to explore how children respond to visuals, and how a program of visual literacy could enhance their oral and written response to pictures.

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SCHOOLS

The two schools, one urban and one suburban, were chosen because they serve two quite different kinds of students. The urban school, in a low socioeconomic area, serves a large number of ethnic students. The ratio is approximately 55% black, Hispanic and Oriental, compared to 45% white students. The school enrolls both neighborhood and bussed-in students whose parents have sent them to the school because of its open education specialty.

The suburban school serves a middle class socioeconomic area in an independent suburban municipality, primarily neighborhood children, but also including a small number of minority students bussed-in to meet a court-ordered desegregation order. The minority population is less than 5%. There is no particular content or organizational specialty identified for this school.

THE PROGRAM

The program structure consisted on one lesson each week throughout the entire school year (September through June), including 35 minutes for the first, and 60 minutes for the fifth grades. Content was kept constant for the paired grades which sometimes, due to intervening programs, field trips and other interruptions, resulted in the same lesson being taught in different weeks. Classroom teachers chose either to stay or leave the classroom; as a generalization the two urban teachers were more often in the classroom during the lesson than were the suburban teachers.

The program content consisted of the illustrations in children's books, reproductions of artists' paintings, and principles or concepts developed

therefrom. Children looked at, talked and wrote about, and made art based on these visuals which formed the core of the content. The program was organized to provide an introduction to visual elements like line, shape, color, form, space, dimension, and texture. It also introduced artists (like Picasso and Klee), illustrators (like Wildsmith and Sendak), and awards (like the Caldecott Medal). The program was pre-planned in a general way, though changes were made throughout the year, as a response to the children's positive or negative reaction to experiences with the visuals. Program content was presented to intact classrooms, though as noted below, data was analyzed from a subset of children involved.

Program content delivery in all four classrooms was done by this researcher, to minimize teacher variables. I was assisted in most of these sessions by a graduate student, and in some cases by the classroom teacher and a student teacher. These people did not present content, but served as small group discussion leaders in non-testing situations so that more talk could take place.

DATA GATHERED

Throughout the year we gathered data, in the form of oral comments made during group discussion, individual oral dictations taken in a "testing" situation, and individual pieces of writing done in the classroom during the lesson. While we did take some minimal dictation for first graders, neither school had an emergent literacy program, so children themselves were not able to do the extensive writing some authors have commented is indeed possible with young children (Klein, 1985). Thus, most of the first grade responses in

this study are oral. Oral data, from both first and fifth graders, was taped and then transcribed, in each case by the same two research assistants used through the study, to ensure greater continuity of interpretation.

In contrast to the primarily oral first grade data, fifth grade data consists of about equal amounts of oral and written data, also analyzed by the same two assistants.

ORAL SAMPLES

Individual student response, in the form of oral comments tape recorded in a "test" situation, were gathered to examine the effectiveness of two different styles of painting as a stimulus for oral language fluency. This data was gathered at three times: beginning, middle and end of the school year to measure changes in response over time. In addition, we gathered data to determine if one style was more effective than the other in stimulating more language and more diverse language.

For each data-gathering session there were two stimulus materials: 1) a watercolor painting by the American artist, Winslow Homer (1863-1910); and 2) a watercolor painting by the Swiss painter, Paul Klee (1879-1940). These were chosen to represent two distinctly different visual styles. In each case the Homer painting was the more realistic of the pair, presenting recognizable objects shown in three dimensional space, rendered in considerable detail, and in predictable colors. In contrast, the Klee painting was in each case an abstract rendering, not showing (except minimally) any recognizable objects, but rather flat shapes in two-dimensional space, done in arbitrary color.

Children came from their classrooms into the testing room in random order, chose one of the paintings, and dictated about it. The relative position of the paintings (i.e., left or right) was varied randomly between each child's dictation. All children took part in the oral dictation, though only data from a subset of 15 children in each classroom was actually used. At the beginning of the year each teacher was asked to identify 5 high, 5 average, and 5 low language users; these 15 children from each classroom (total N=60) provided data reported here. This research procedure is often used by language researchers (i.e., Dyson, 1984).

LANGUAGE MEASURES

To analyze the part of the data reported here, three different language measures were used; two of these are quantity measures while one is a quality measure. We analyzed the number of sentences generated, and the total number of words generated. These two quantity measures are often used as rough estimates of language maturity (Loban, 1976).

The quality measure, a type/token ratio, is often used by language researchers (Jensen, 1973) as an indication of language maturity. This reports the number of different words (called types) per given sample (called tokens). The researcher chooses the number of tokens to be used (in this case, 50 words) and then notes every repeated word. What is left is the type/token ratio, an indication of language diversity. For example, 25/50 is a less diverse sample than 36/50. The ratio is often presented as a percentage, as in the chart here.

RESULTS

Using these measures, we learned about three subsamples involved in the study: results were obtained through analyses of gender, setting, and grade level.

Insert Table 1 here

Gender Differences

Females in first grade generated more sentences about Klee than about Homer. This was consistent over all three time periods. Females in fifth grade generated nearly twice as many sentences about Homer as about Klee during sessions one and two, but this evened-off during the last session. Males in first grade wrote more about Homer than about Klee in two of three sessions. Males in fifth grade wrote more about Klee than about Homer in two of three sessions.

Among neither males nor females at fifth grade was there apparent developmental progression toward more language, despite the fact there was no limit on the amount of time children could spend dictating.

The above data seem to suggest that as children grow older, boys move from preferring representational to preferring abstract art, while girls move from preferring abstract to preferring representational art.

Gender differences were also apparent in considering the number of words generated.

Insert Table 2 here

Females in first grade wrote more words about Klee in two of three sessions. In contrast, females in fifth grade generated more words about Homer than about Klee, over all three time periods. Males in first grade dictated more about Homer in two of three sessions. Males in fifth grade dictated more about Klee in two of three sessions.

Therefore, findings about the numbers of words generated support the generalization above concerning the shift in preference as children grow older.

Insert Table 3 here

Looking at diversity in language, in all cases but one, the Homer painting stimulated more diverse language than did the Klee painting. In all cases for boys, both first and fifth grade, more diverse language resulted when the boys talked about the more realistic painting. In all cases girls in first grade dicated more diverse language for Homer, and in all but the second testing period girls in fifth grade also dictated more diverse language about Homer. Thus there seems to be a tendency for both genders to use more diverse language when orally describing more realistic pictures.

School Setting

Using pictures as a stimulus, we were able to examine urban and suburban differences, by adding the average number of sentences per testing period, and

then averaging the totals. Using this process we found that suburban children, dictating about either Homer or Klee, generated both more sentences and more words than did urban children.

average # of sentences (Refer to Table 1)

Urban		Suburban	
Homer	Klee	Homer	Klee
9.2	9.9	14.3	11.0

average # of words (Refer to Table 2)

78.6	90.1	147.6	97.8

This contrasts with data about written language reported elsewhere which indicated that in three written samples about illustrations in children's books, fifth grade urban children wrote more words and more sentences than did suburban children (Stewig, 1988).*

Looking at language diversity, we find very little evident difference in these dictated samples, however. Calculating averages for urban and suburban samples, we find the following type/token percentages:

Urban		Suburban (Refer to Table 3)	
Homer	Klee	Homer	Klee
68.6	64.8	69.3	63.1

This finding confirms data reported elsewhere that the written language of urban and suburban students was comparably diverse.

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*In reading this comparison, keep in mind that when transcribing oral into written data, the segmentation into sentence units is less certain than when working with original written samples. To try to compensate for this, we used only two transcribers.

The table also shows that both urban and suburban students dictated more diverse language about the more realistic, i.e., Homer paintings than they did about the more abstract, i.e., Klee paintings.

Grade Level Differences

First graders dictated more sentences about Klee than about Homer while 5th graders dictated more sentences about Homer than about Klee.

Homer		Klee (Refer to Table 1)	
1st Graders	5th Graders	1st Graders	5th Graders
9.6	9.9	11.3	9.1

Comparing first and fifth grade sentence production, we notice that among those children who chose to dictate about Homer, the fifth graders dictated slightly more sentences. This was not the case among those children who chose to dictate about Klee. In this case, the fifth graders actually said 20% fewer sentences than did the first graders.

Analyzing the number of words spoken, fifth graders said more than first graders in either case.

Homer		Klee (Refer to Table 3)	
1st Graders	5th Graders	1st Graders	5th Graders
80.5	113.7	84.0	96.6

Fifth graders said more about Homer than about Klee, though the language production of first graders was quite comparable. Among those children choosing to talk about Homer, there was greater difference between first and fifth grade production than between those first and fifth graders who chose to write about Klee.

First and fifth graders dictated more diverse language when talking about Homer than when talking about Klee. Fifth graders dictated more diverse language than did first graders when talking about either Homer or Klee.

Homer		Klee	
1st Graders	5th Graders	1st Graders	5th Graders
66.4%	72.9%	60.6%	66.2%

Implications

Monitoring changes from first through fifth grade, we discovered a significant shift in preference among males and females, which occurred regardless of urban or suburban setting. Boys in this study moved from preferring representational art (Homer) to preferring abstract art (Klee). The opposite shift was noted among females. The question thus becomes: How can teachers allow boys to become more responsive to abstract art (the change noted) while not losing their earlier responsiveness to representational art? Conversely, is there some way that teachers can allow girls as they get older to respond to representational art, but yet continue encouraging response to abstract art noted among younger girls? The desired outcome is that teachers help children avoid narrowing their choices.

The shift noted in this study suggests that materials to be presented must include a full range from representational to abstract art. This should allow the developmental changes to occur, even as children continue to respond to earlier preferences. As teachers we need to avoid assuming that if we believe we know preferences we should present children with such materials. Rather, given the preference shifts noted, we need to consciously widen the range of what we include in a visual literacy curriculum. This guards against teacher bias about what teachers think children might prefer. This seems

especially important given research from other areas of language arts which clearly document the difference between adult and child taste, i.e., in poetry (Terry, 1974). What we are doing is eliminating our own bias about kinds of art, in order to facilitate the full development of children's visual literacy.

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Table 1

Number of Sentences

	Homer							
	1st				5th			
	U	S	M	F	U	S	M	F
Beginning	20	19	17	10	9	9.9	6.9	12.4
Middle	6.9	5.0	6.0	6.8	7.8	17.2	8.1	14.9
End	5.3	25.5	10.4	7.5	6.7	9.8	7.3	10.3
	Klee							
	1st				5th			
	U	S	M	F	U	S	M	F
Beginning	14.1	14.8	6	17.2	10.0	8.0	14.0	7.0
Middle	9.9	14.1	16.1	8.6	6.6	9.0	6.0	8.8
End	9.6	10.0	7.4	12.0	9.4	10.5	7.6	11.5

Table 2

Number of Words

	Homer							
	1st				5th			
	U	S	M	F	U	S	M	F
Beginning	104.5	140.8	133.5	82.8	92.7	119.5	80.1	134.5
Middle	54.2	65.3	53.5	73.5	96.8	198.3	93.6	180.7
End	37.0	250.0*	95.7	44.5	86.4	112.1	79.6	113.2

	Klee							
	1st				5th			
	U	S	M	F	U	S	M	F
Beginning	131.0	88.4	27.0	119.2	110.5	108.0	156.0	86.5
Middle	66.3	128.0	137.3	64.6	74.2	74.2	76.6	71.5
End	69.1	88.1	55.9	100.5	90.2	100.3	87.3	101.9

*Note: In this, and some other instances, there are 1 or 2 children whose scores are so completely out of range, that it skews the averages.

Table 3

Type-Token Percent

	Homer							
	1st				5th			
	U	S	M	F	U	S	M	F
Beginning	61.4	77.6	66.0	68.4	72.0	63.2	73.1	69.2
Middle	68.7	62.0	65.8	65.0	72.4	74.0	75.2	71.4
End	69.0	65.0	67.3	66.0	68.4	74.0	75.3	73.8
	Klee							
	1st				5th			
	U	S	M	F	U	S	M	F
Beginning	57.3	58.9	**	58.2	63.0	58.0	56.0	64.0
Middle	63.7	63.8	62.8	64.5	63.8	71.5	70.0	75.2
End	66.6	60.4	62.2	58.1	75.1	66.4	60.9	71.2

**No data included here because no 1st grade male said 50 words.

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